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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/653,793	09/03/2003	Rolf Bruck	E-80042	4527

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EXAMINER

COMPTON, ERIC B

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/653,793

Applicant(s)

BRUCK, ROLF

Examiner

Eric B. Compton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 01-012018 to Toshiaki in view of JP 63-134061 to Nagai and JP 04-103819 to Tsukiide et al.

Toshiaki

Toshiaki discloses a process for producing a metallic honeycomb body for a catalytic converter comprising the steps of:

providing metal foils (21, 22) having structures and forming a void (50-52) in at least one of the metal foils;

processing the at least partially structured metal foils by stacking and subsequently winding the metal foils to form a honeycomb structure with passages for conducting a gas therethrough (Figure 2), and to place the at least one metal foil such that the void defines a receptacle extending into an interior of the honeycomb structure and being configured to receive therein a sensor device (40);

providing a tubular casing (11) with an opening and introducing the honeycomb structure into the tubular casing, with the opening at least partly aligned with the receptacle; and

connecting the metal foils and the tubular suitable joining technique (Figure 5).

However, Toshiaki does not disclose forming voids in the metal foils (21, 22) prior to forming structures (22).

Nagai

Nagai discloses forming voids (39) on flat metal foil (45), forming voids (37) on a corrugated metal foil (49), and subsequently forming structures (Figure 2) on said metal foils to define air passages on the metal foils. See Derwent Abstract. The structure is identical to that of Toshiaki.

The forming of voids prior to forming structures on the metal foil is advantageous in that allows for more efficient joining of the sheets.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a metallic honeycomb body as disclosed by Toshiaki, by forming voids followed by subsequent structuring as taught by Nagai, in order to realize this advantage.

Neither Toshiaki nor Nagai disclose "winding the metal foils in an S shape or arranging the metal foils to run in an involute form from an inside outward."

Tsukiide

Tsukiide discloses an exhaust gas purification device comprising winding a honeycomb body. As noted in the Abstract, the winding may be "spiral, involute, and S-

shaped." See also Figures 1-4. The Abstract notes that involute and S-shaped have a "better ability for equalizing velocity distribution of the exhaust gas compared to the [spiral] would honeycomb body."

Conclusion

Regarding claim 1-3, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the honeycomb body of Toshiaki and Nagai, by winding the metal foils in an S-shape or involute form from the inside outward, in light of the teachings of Tsukiide, in order to provide "better ability for equalizing velocity distribution of the exhaust gas compared to the [spiral] would honeycomb body."

Regarding claims 4, 5, and 8, Toshiaki/Nagai/Tsukiide disclose the claimed invention except for the specific dimensions as claimed. It would have been an obvious matter of design choice to form a catalytic converter as disclosed by Toshiaki/Nagai/Tsukiide having the particular dimensions claimed to form a catalytic converter, since applicant has not disclosed that such dimensions solve any stated problem or are for any particular purpose.

Regarding claim 7, and 9, Toshiaki discloses stacking the metal coils (Figure 3), and then winding (Figure 2), as well as the voids being U shaped recesses (Figure 2), wherein the profile follows a profile of the metal foils (Figure 2).

Regarding claim 10, Toshiaki discloses inserting the sensor having a shape corresponding to the receptacle (Figure 1).

Response to Arguments

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant has amended claim 1 to recite "winding the metal foils in an S shape or arranging the metal foils to run in an involute form from an inside outward." Applicant notes that all three winding forms: spiral, S-shape, and involute can be used. See e.g., Figure 1, & 3-4. Toshiaki discloses the same invention that Applicant discloses in Figure 3, mainly the spiral form. Tsukiide discusses forming a similar device by all three methods, and suggesting benefits of S-shape and involute over spiral. Therefore, it would be have been obvious to have wound the foils to form the S-shape of involute, in light of the teachings of Tsukiide, in order to produce the other forms other than spiral which are known to have better operating characteristics. See JPO Abstract.

Applicant also argues the sequence for forming the holes and structures is not disclosed by the prior art. Again Applicant discloses two embodiment for this sequence: 1) forming the structure first by bring together a flat foil and corrugated foil and then forming holes, as shown in Figure 3; and 2) forming the holes in each first and then bring them together to form the structures, as claimed. Toshiaki discloses the former. Nagai discloses the latter. It would have been obvious that either method can be used,

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however, the latter may increase efficiency. See e.g., Okabe, Col. 1, lines 24-33 and 55-65.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Compton whose telephone number is (571) 272-4527. The examiner can normally be reached on M-F 9-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Jimenez can be reached on (571) 272-4530. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Eric B. Compton
Primary Examiner
Art Unit 3726

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